

FIG. 1

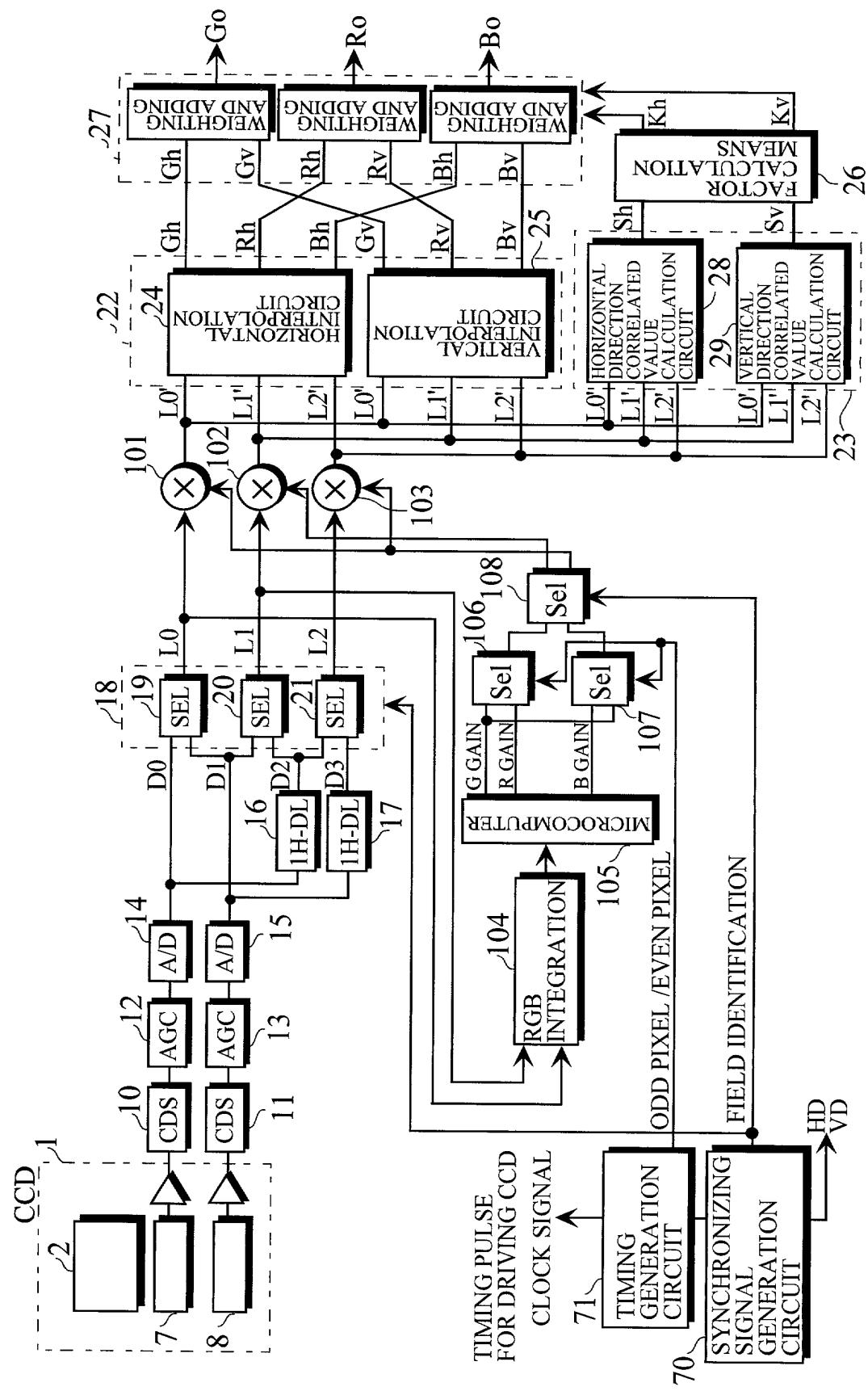


FIG. 2

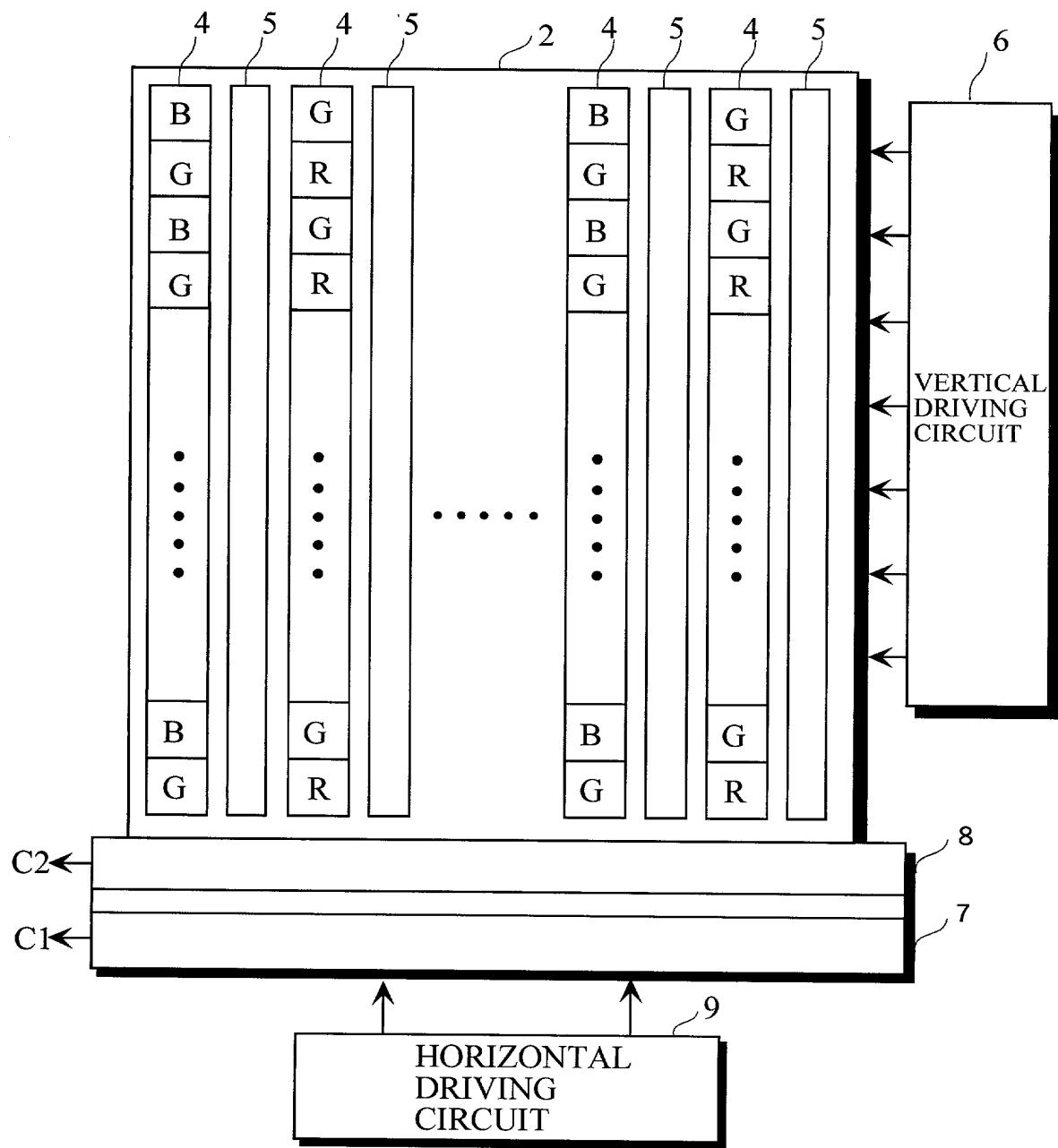


FIG. 3

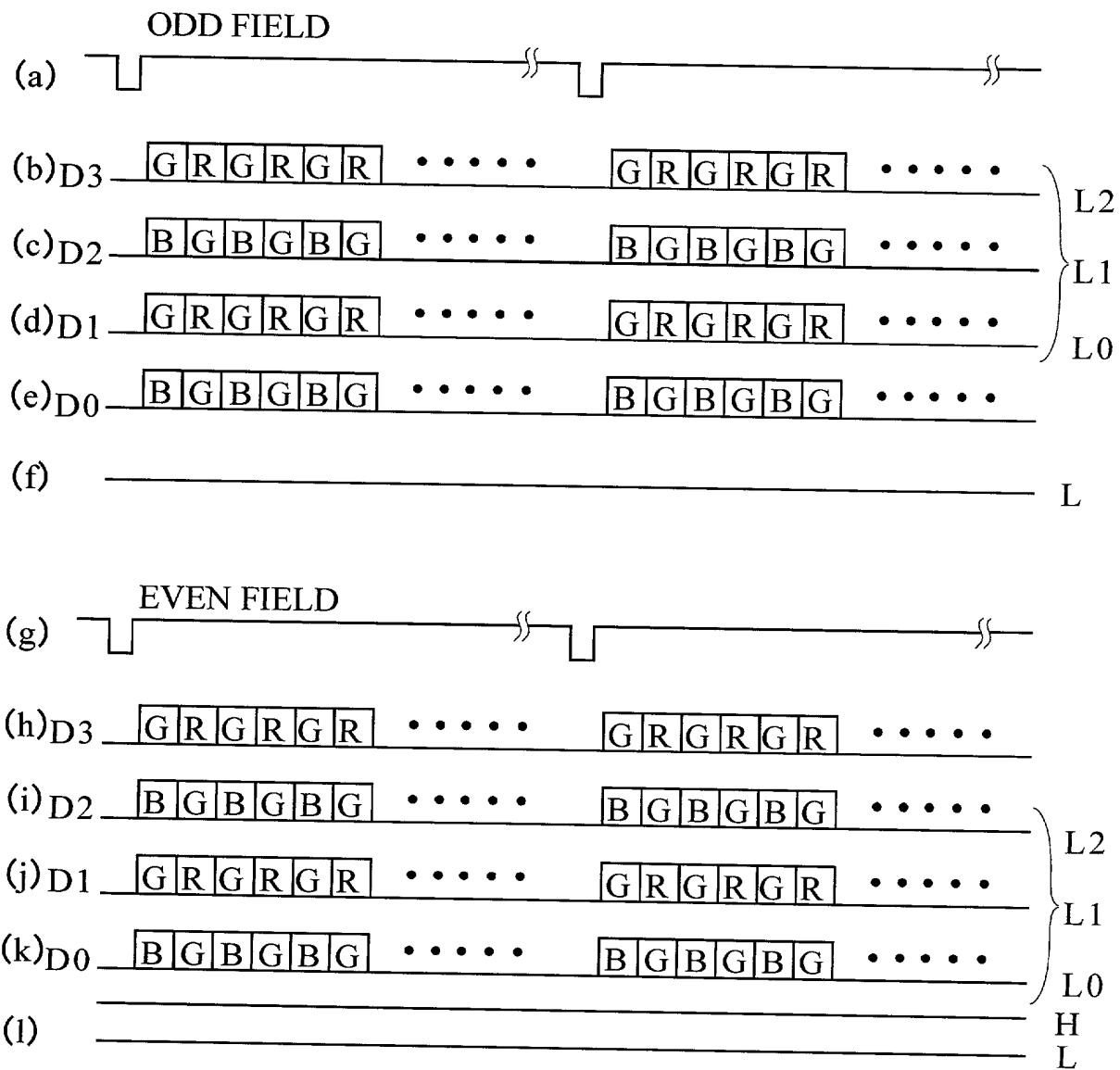


FIG. 4

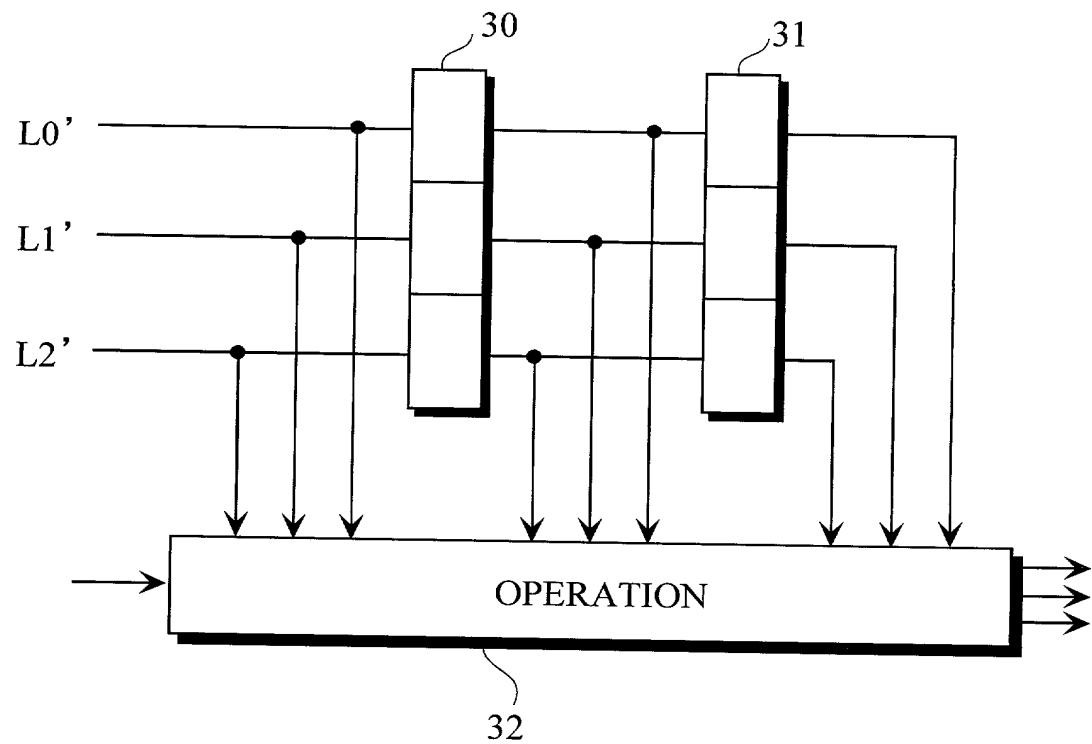


FIG. 5

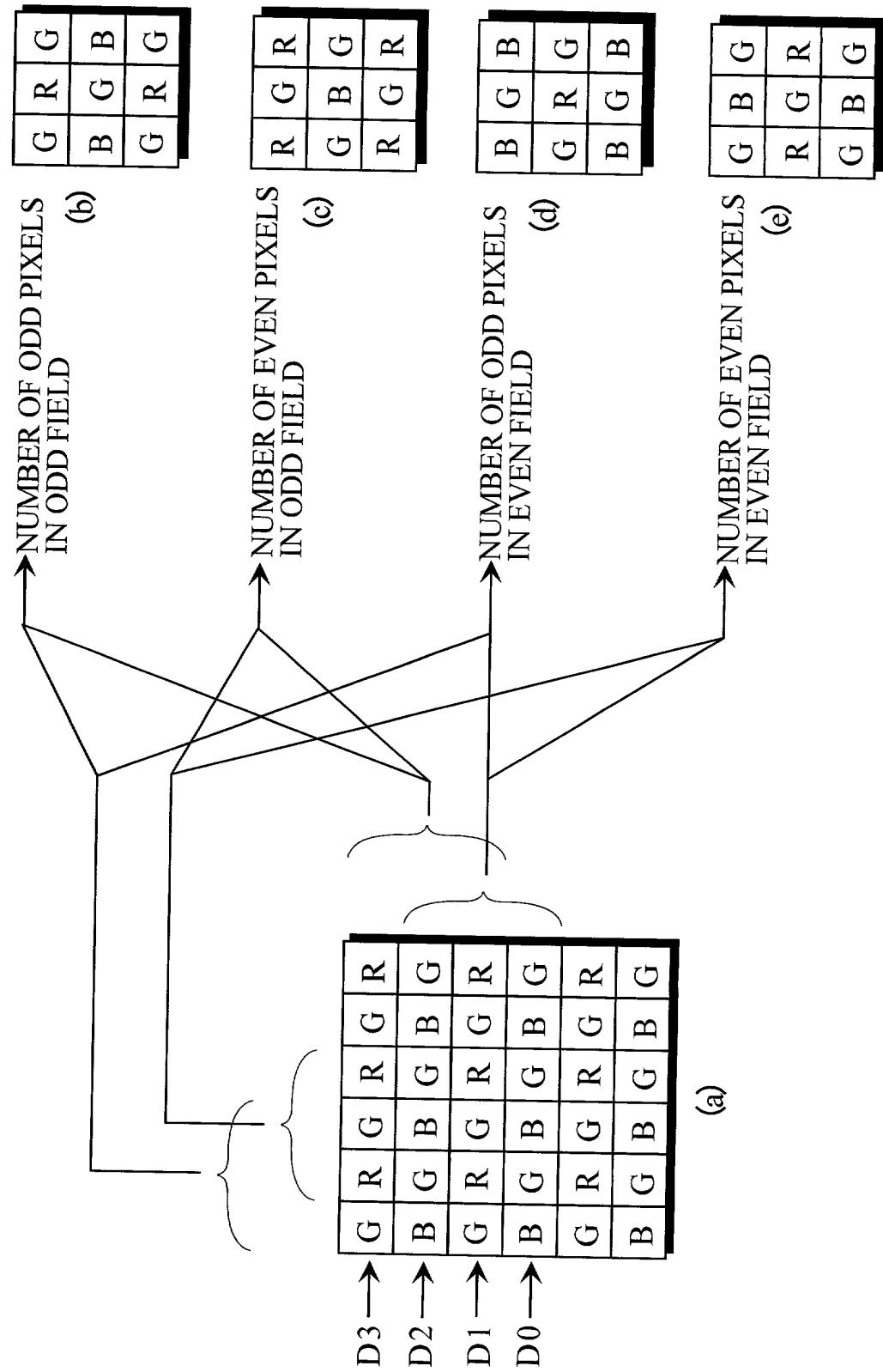


FIG. 6

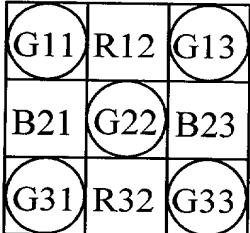
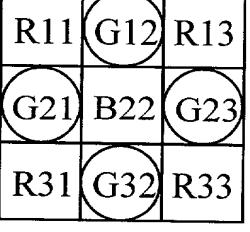
ODD FIELD	METHOD OF INTERPOLATING G, R, B SIGNAL
<p>ODD PIXEL</p> 	$G_h = g_{22}$ $B_h = (b_{21} + b_{23})/2$ $R_h = \frac{g_{22} * r_{12}}{g_{12}} = \frac{2(g_{22} * r_{12})}{g_{11} + g_{13}}$ $G_v = g_{22}$ $R_v = (r_{12} + r_{32})/2$ $B_v = \frac{g_{22} * b_{21}}{g_{21}} = \frac{2(g_{22} * b_{21})}{g_{11} + g_{31}}$
<p>EVEN PIXEL</p> 	$B_h = b_{22}$ $G_h = (g_{21} + g_{23})/2$ $R_h = \frac{g_{22} * r_{12}}{g_{12}} = \frac{(g_{21} + g_{23})(r_{11} + r_{13})}{4g_{12}}$ $B_v = b_{22}$ $G_v = (g_{12} + g_{32})/2$ $R_v = \frac{r_{21} * g_{22}}{g_{21}} = \frac{(r_{11} + r_{31})(g_{12} + g_{32})}{4g_{21}}$

FIG. 7

ODD/ EVEN FIELD	METHOD OF CALCULATING VERTICAL CORRELATED VALUE (S _v) AND HORIZONTAL CORRELATED VALUE (S _h)									
<table border="1"> <tr> <td>D11</td><td>D12</td><td>D13</td></tr> <tr> <td>D21</td><td>D22</td><td>D23</td></tr> <tr> <td>D31</td><td>D32</td><td>D33</td></tr> </table>	D11	D12	D13	D21	D22	D23	D31	D32	D33	$S_v = (d_{11} + 2 \times d_{12} + d_{13}) - (d_{21} + 2 \times d_{22} + d_{23}) + (d_{21} + 2 \times d_{22} + d_{23}) - (d_{31} + 2 \times d_{32} + d_{33}) $ $S_h = (d_{11} + 2 \times d_{21} + d_{31}) - (d_{12} + 2 \times d_{22} + d_{32}) + (d_{12} + 2 \times d_{22} + d_{32}) - (d_{13} + 2 \times d_{23} + d_{33}) $
D11	D12	D13								
D21	D22	D23								
D31	D32	D33								

FIG. 8

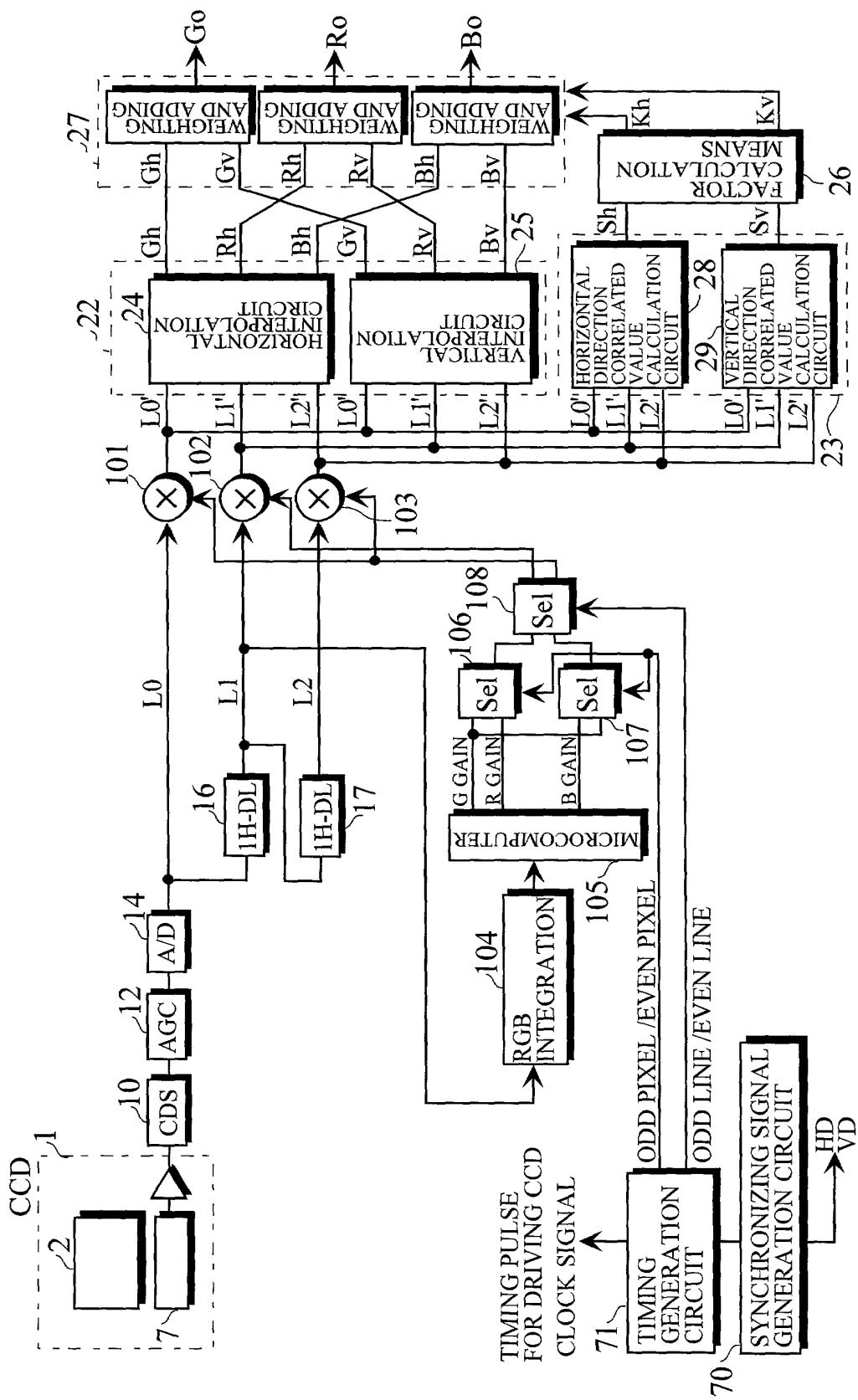


FIG. 9

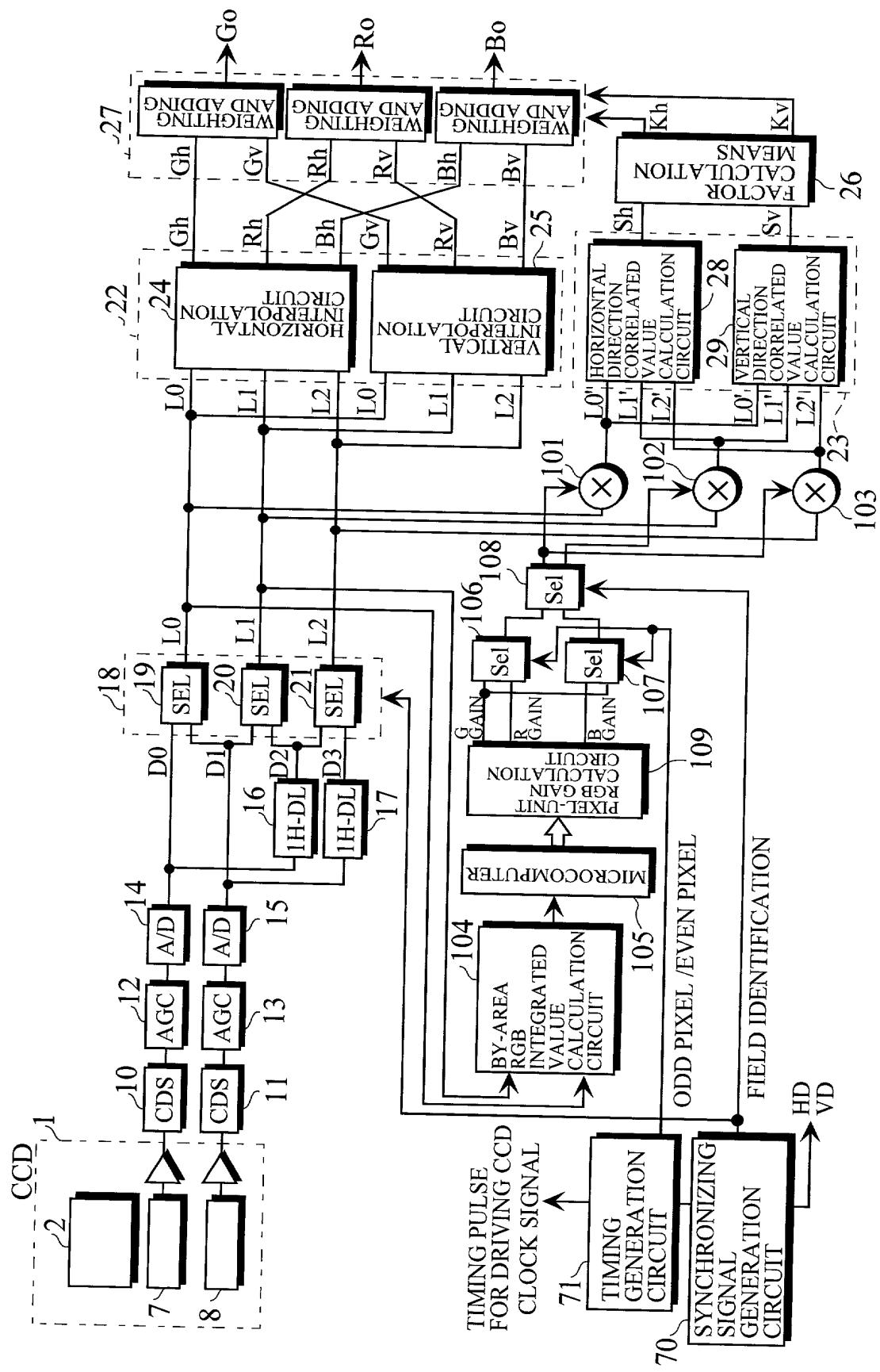


FIG. 10

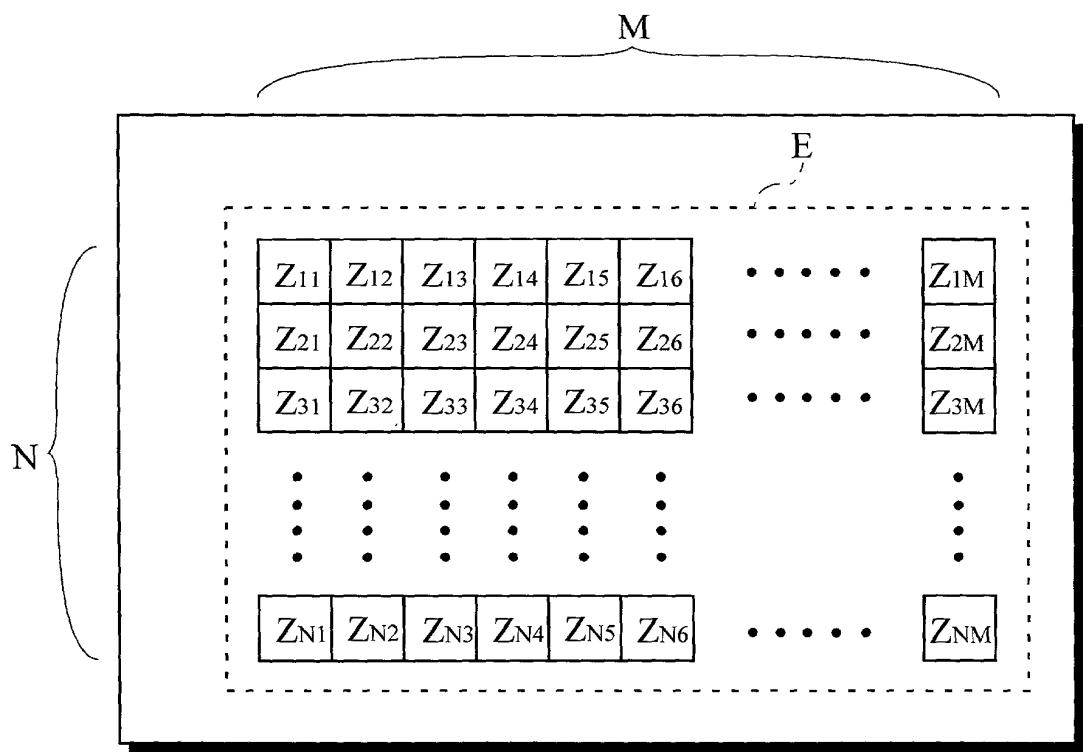


FIG. 11

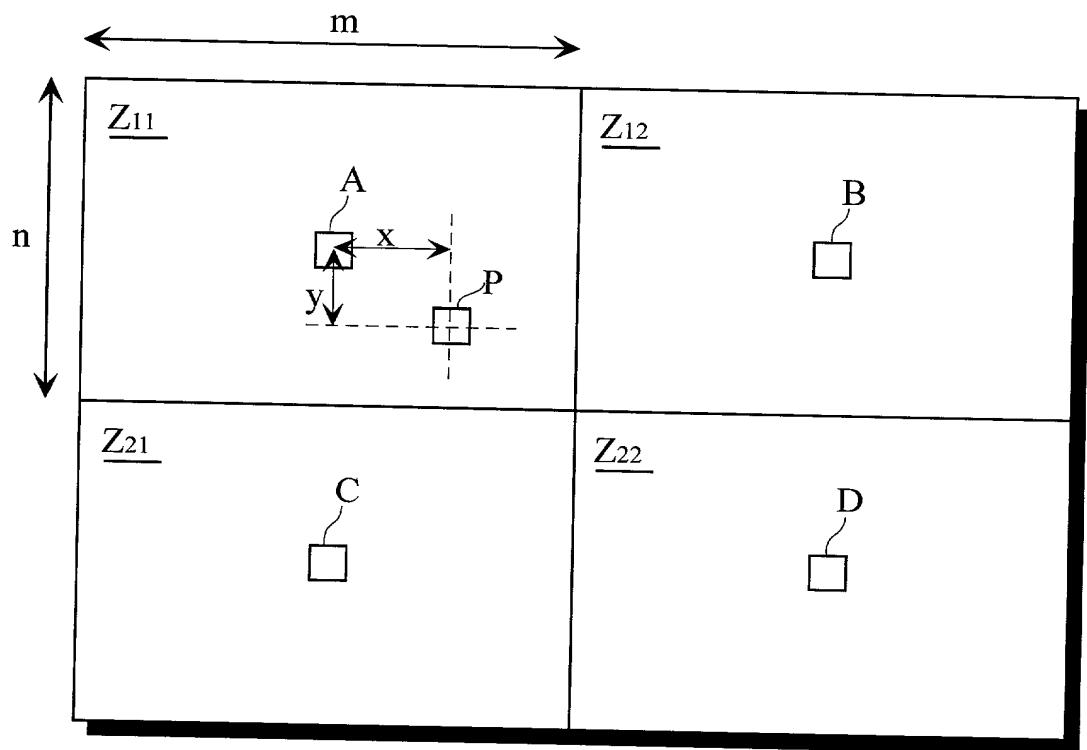


FIG. 12

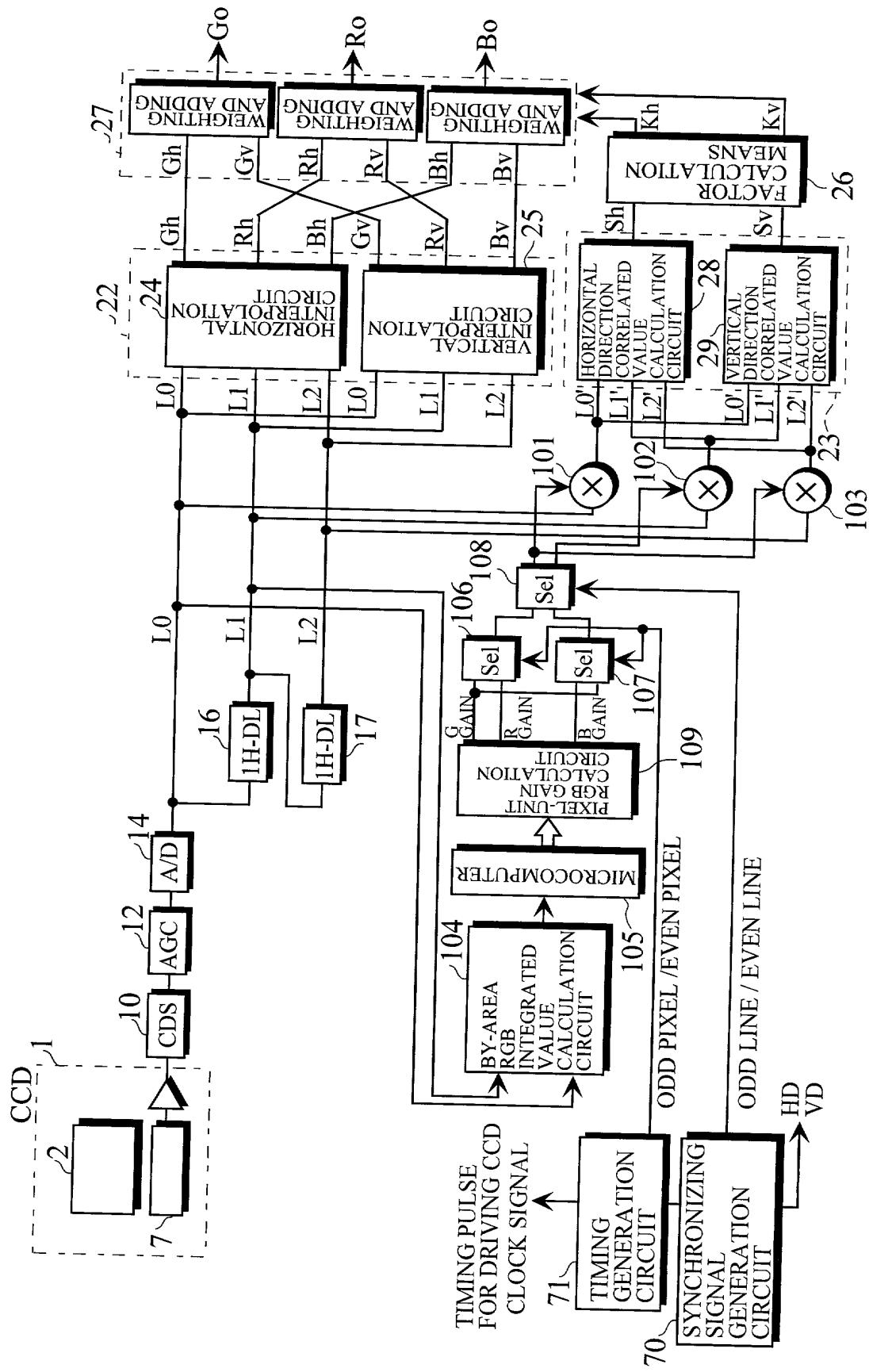


FIG. 13

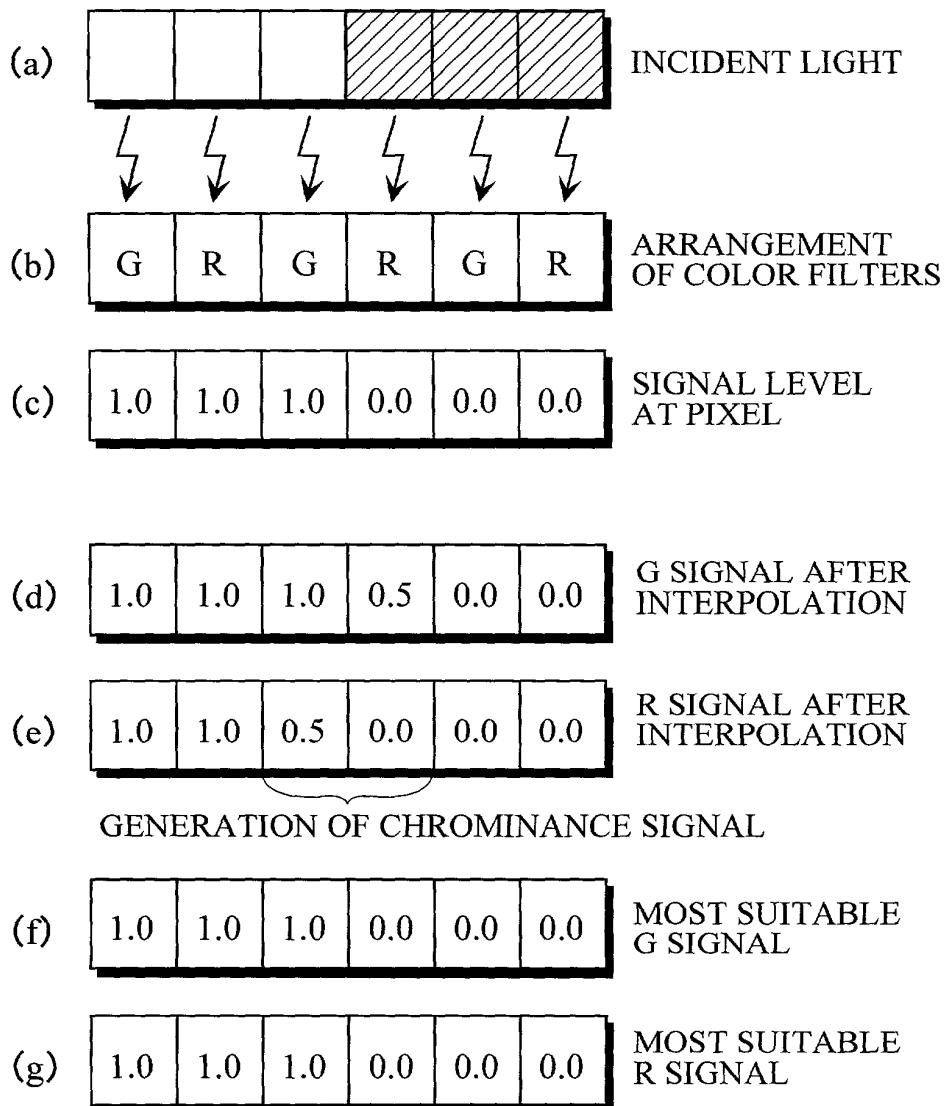


FIG. 14

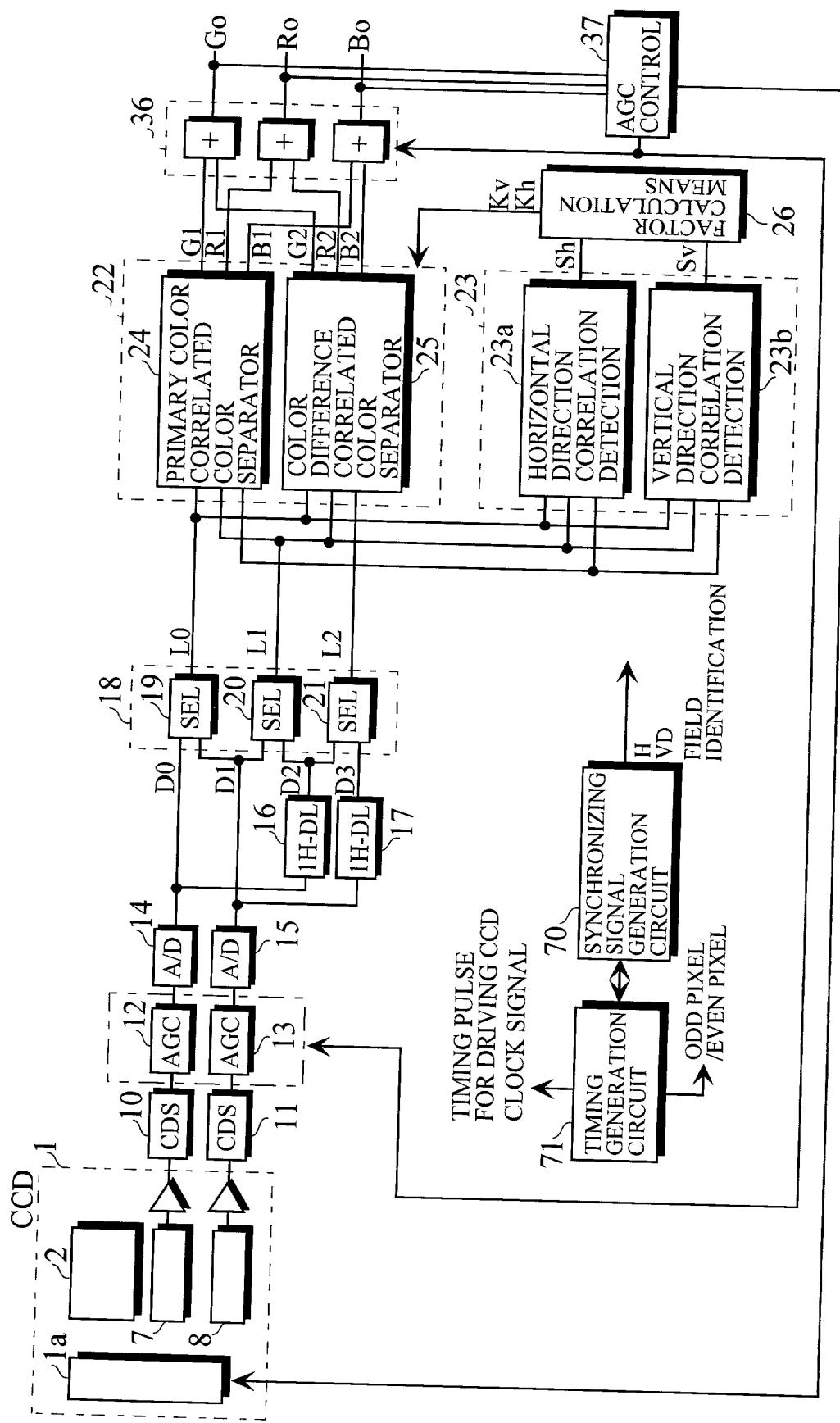


FIG. 15

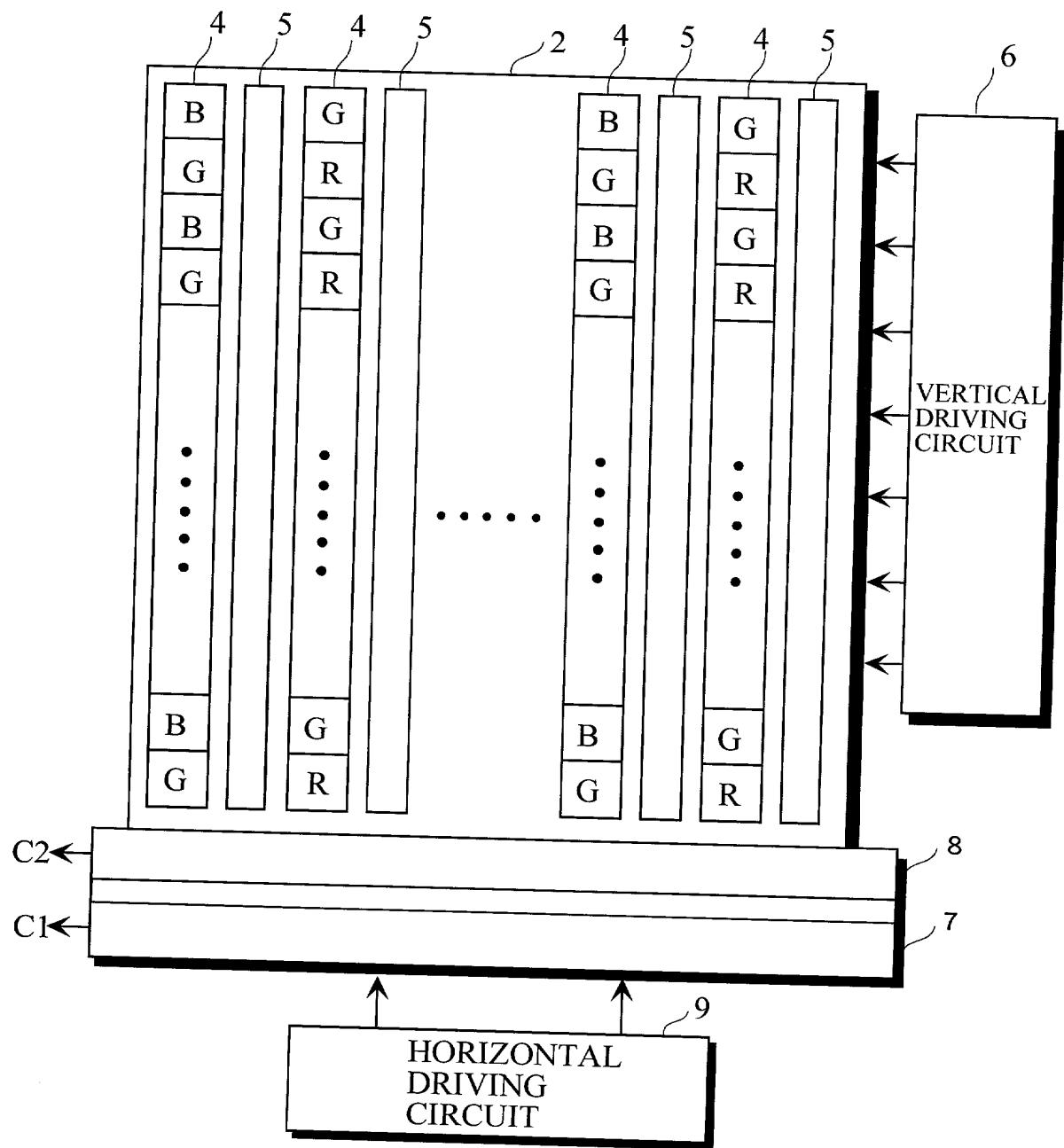
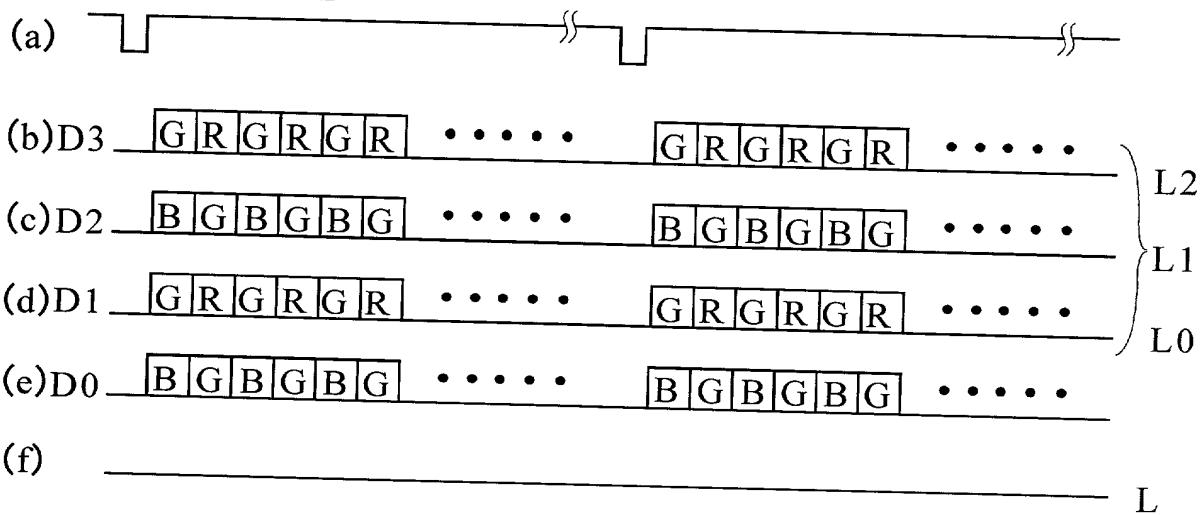


FIG. 16

ODD FIELD



EVEN FIELD

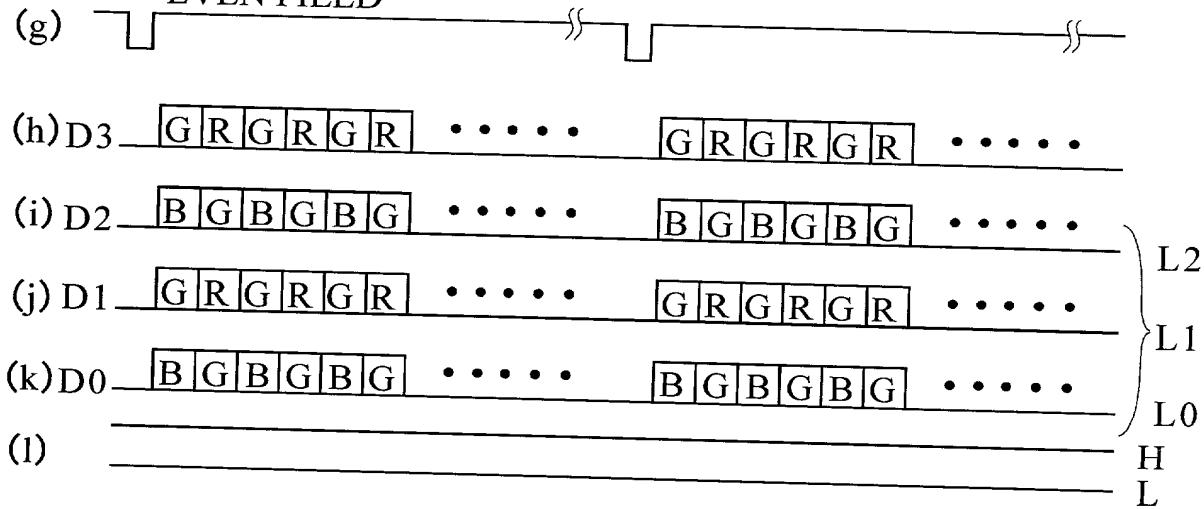


FIG. 17

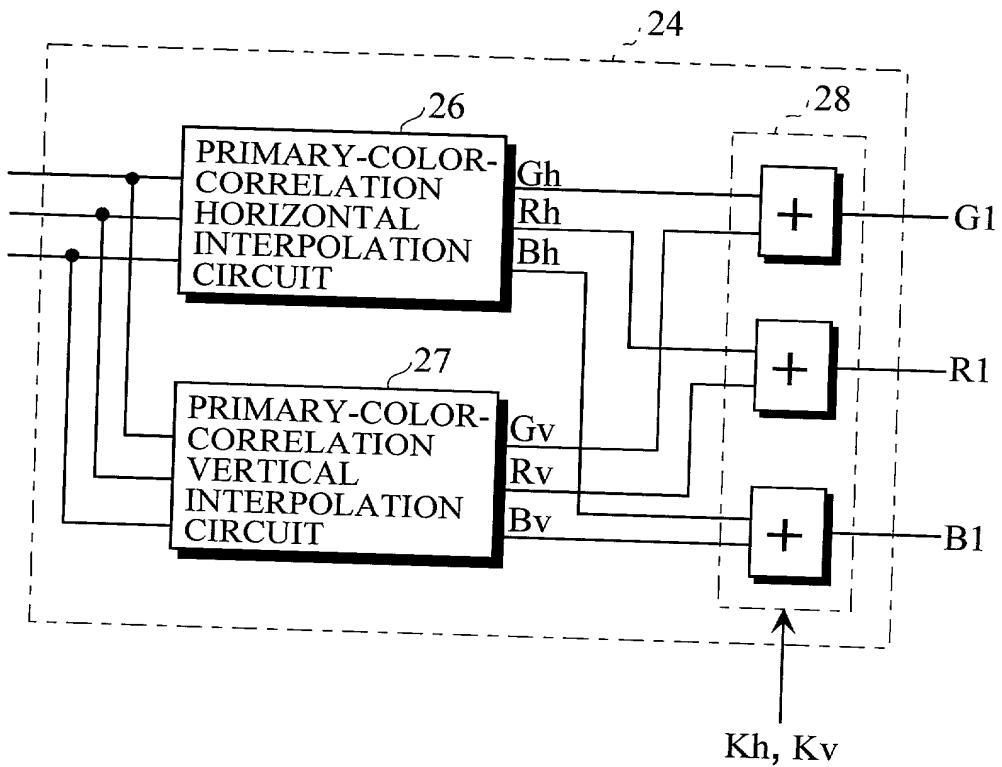


FIG. 18

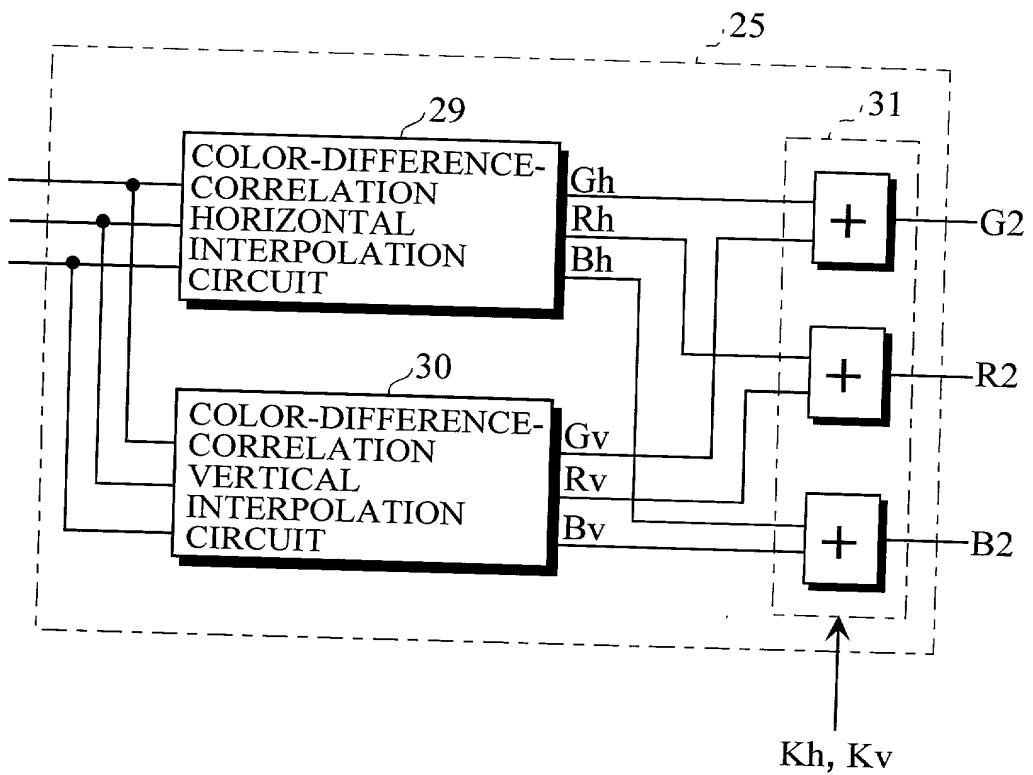


FIG. 19

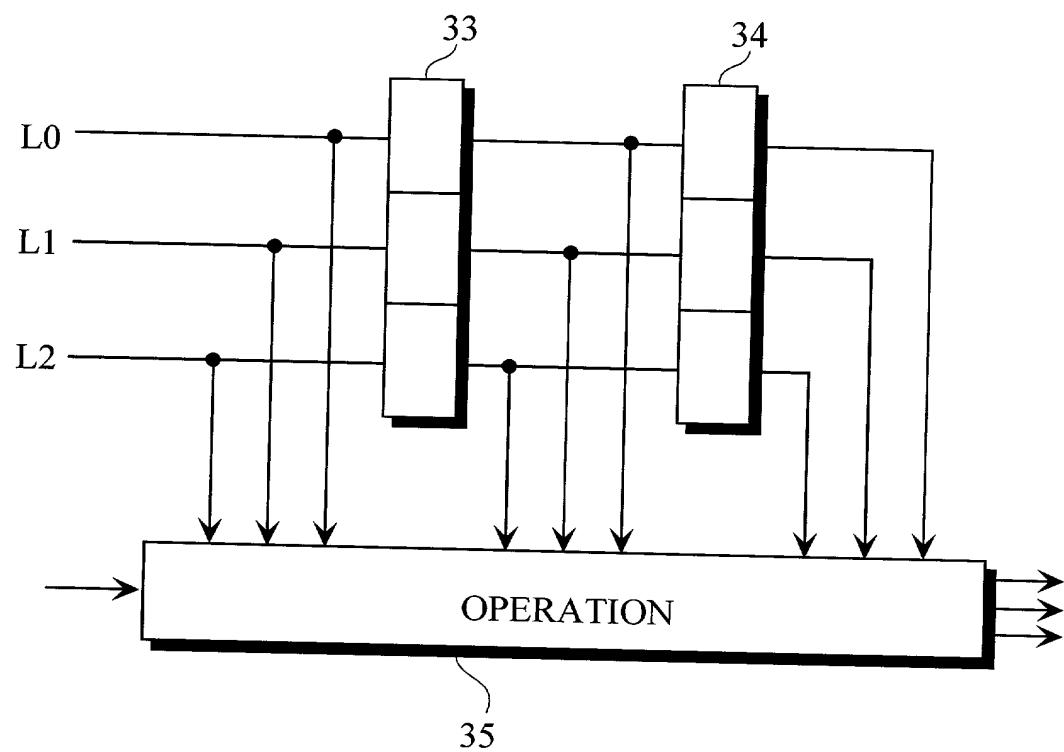


FIG. 20

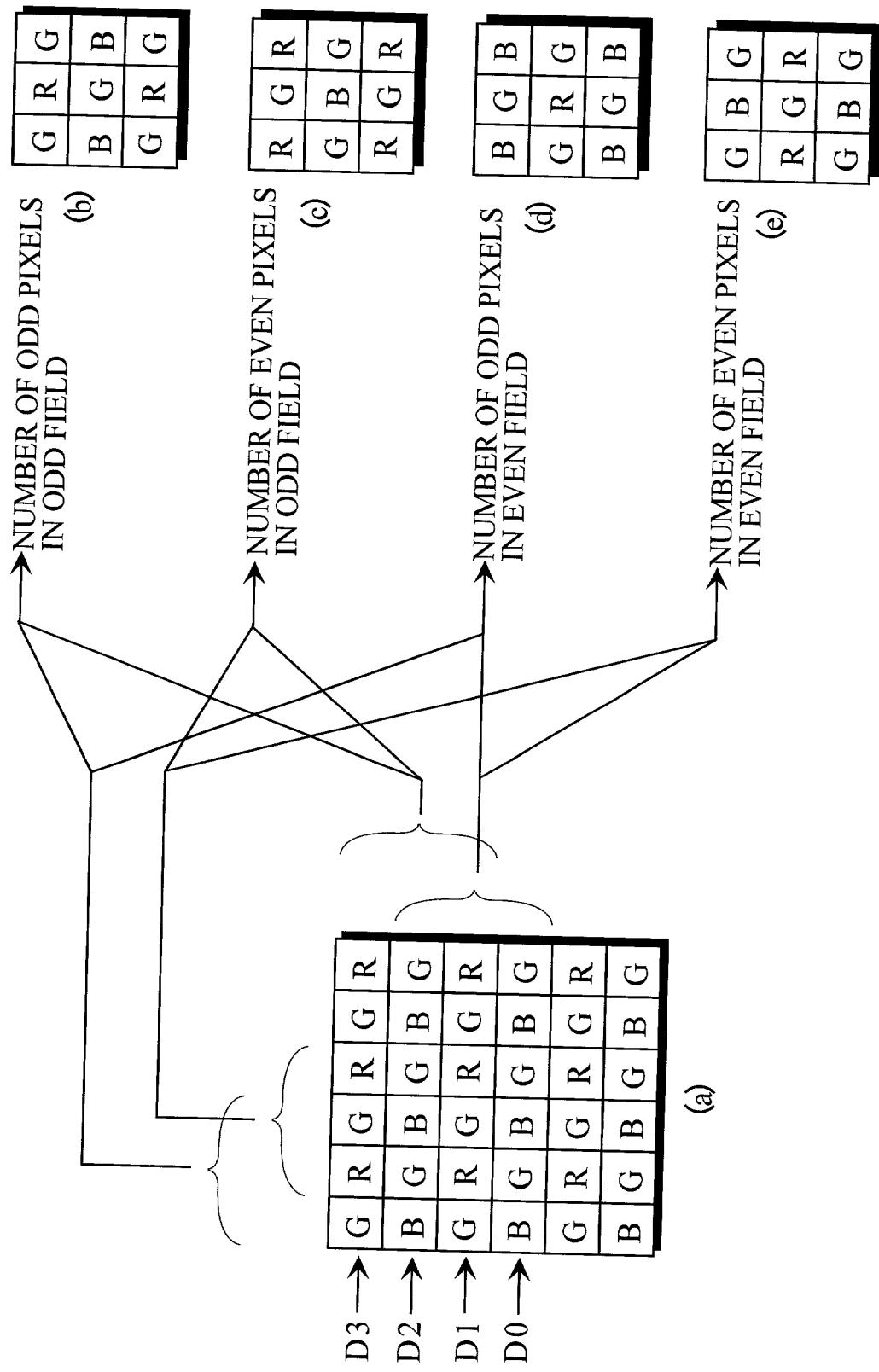


FIG. 21

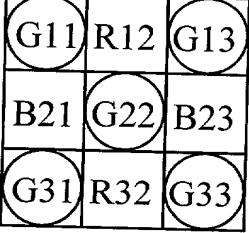
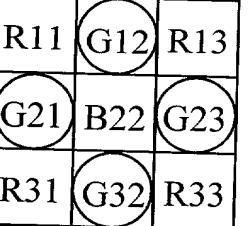
ODD FIELD	METHOD OF INTERPOLATING G, R, B SIGNAL
<p>ODD PIXEL</p> 	$G_h = G_{22}$ $B_h = (B_{21}+B_{23})/2$ $R_h = \frac{G_{22} \times R_{12}}{G_{12}} = \frac{2(G_{22} \times R_{12})}{G_{11}+G_{13}}$ $G_v = G_{22}$ $R_v = (R_{12}+R_{32})/2$ $B_v = \frac{G_{22} \times B_{21}}{G_{21}} = \frac{2(G_{22} \times B_{21})}{G_{11}+G_{31}}$
<p>EVEN PIXEL</p> 	$B_h = B_{22}$ $G_h = (G_{21}+G_{23})/2$ $R_h = \frac{G_{22} \times R_{12}}{G_{12}} = \frac{(G_{21}+G_{23})(R_{11}+R_{13})}{4 \times G_{12}}$ $B_v = B_{22}$ $G_v = (G_{12}+G_{32})/2$ $R_v = \frac{R_{21} \times G_{22}}{G_{21}} = \frac{(R_{11}+R_{31})(G_{12}+G_{32})}{4 \times G_{21}}$

FIG. 22

ODD FIELD	METHOD OF CALCULATING VERTICAL CORRELATED VALUE (S _v) AND HORIZONTAL CORRELATED VALUE (S _h)
<p>ODD PIXEL</p>	$S_v = (G11 + G13) / 2 - (G31 + G33) / 2 $ $S_h = (G11 + G31) / 2 - (G13 + G33) / 2 $
<p>EVEN PIXEL</p>	$S_v = G12 - G32 $ $S_h = G21 - G23 $

FIG. 23

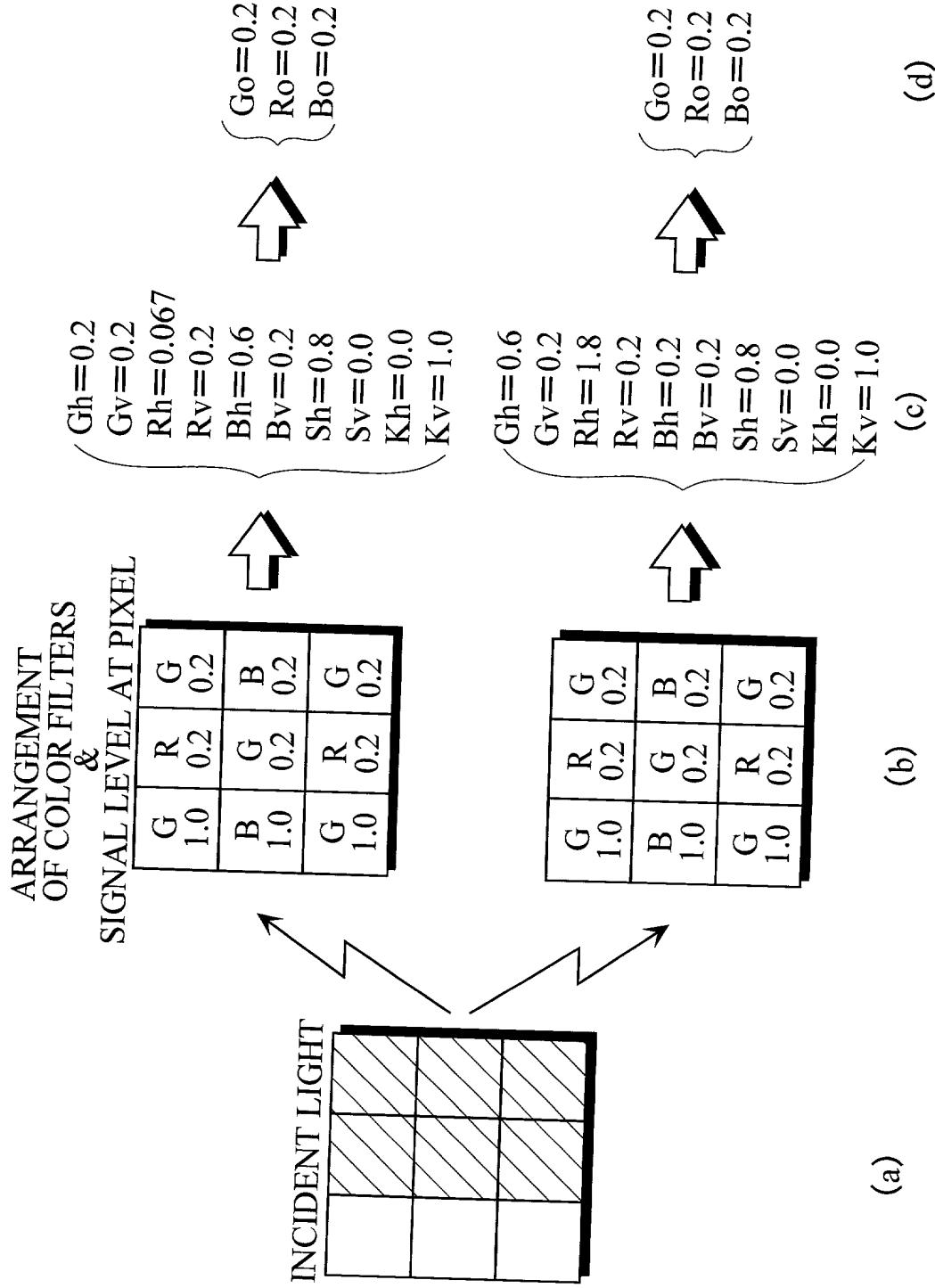


FIG. 24

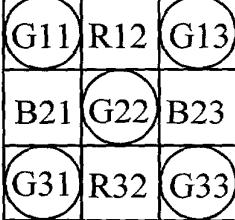
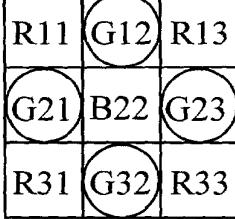
ODD FIELD	METHOD OF INTERPOLATING G, R, B SIGNAL
ODD PIXEL 	$G_h = G_{22}$ $R_h = \frac{R_{12} + R_{32}}{2} - \frac{G_{11} + G_{13} + G_{31} + G_{33}}{4} + G_{22}$ $B_h = \frac{B_{21} + B_{23}}{2}$ $G_v = G_{22}$ $R_v = \frac{R_{12} + R_{32}}{2}$ $B_v = \frac{B_{21} + B_{23}}{2} - \frac{G_{11} + G_{13} + G_{31} + G_{33}}{4} + G_{22}$
EVEN PIXEL 	$G_h = \frac{G_{21} + G_{23}}{2}$ $R_h = \frac{R_{11} + R_{13} + R_{31} + R_{33}}{4} - \frac{G_{12} + G_{32}}{2} + \frac{G_{21} + G_{23}}{2}$ $B_h = B_{22}$ $G_v = \frac{G_{12} + G_{32}}{2}$ $R_v = \frac{R_{11} + R_{13} + R_{31} + R_{33}}{4} + \frac{G_{12} + G_{32}}{2} - \frac{G_{21} + G_{23}}{2}$ $B_v = B_{22}$

FIG. 25

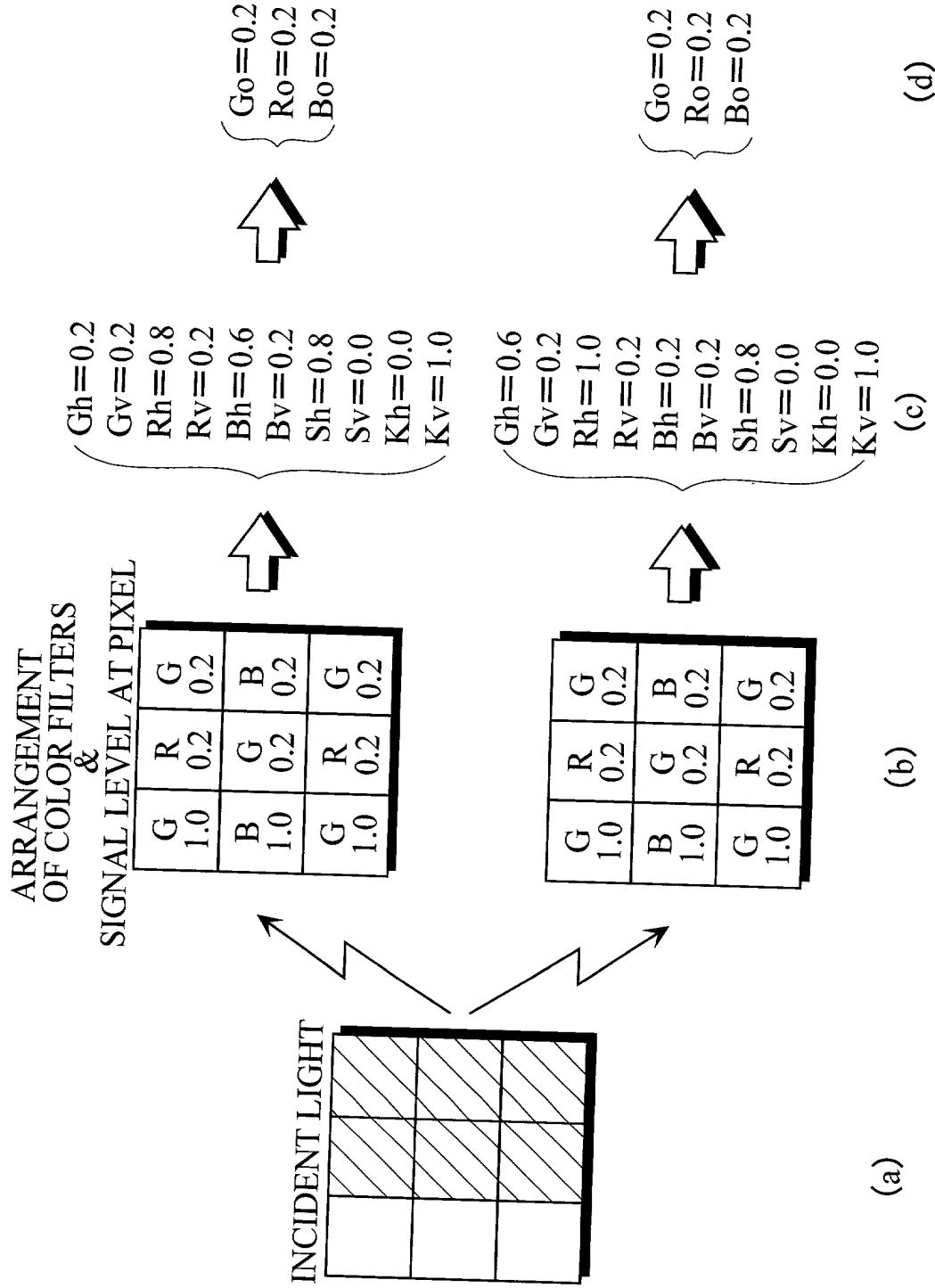


FIG. 26

ODD FIELD		METHOD OF INTERPOLATING G,R,B SIGNAL	
ODD PIXEL		$G_h = G_{33}$ $R_h = \frac{G_{33} \times (R_{21} + 6 \times R_{23} + R_{25})}{4 \times (G_{22} + G_{24})}$ $B_h = \frac{4 \times (B_{32} + B_{34}) \times G_{33}}{G_{31} + 6 \times G_{33} + G_{35}}$ $G_v = G_{33}$ $R_v = \frac{4 \times (R_{23} + R_{43}) \times G_{33}}{G_{13} + 6 \times G_{33} + G_{53}}$ $B_v = \frac{G_{33} \times (B_{12} + 6 \times B_{32} + B_{52})}{4 \times (G_{22} + G_{42})}$	
EVEN PIXEL		$G_h = \frac{4 \times (G_{32} + G_{34}) \times B_{33}}{B_{31} + 6 \times B_{33} + B_{35}}$ $R_h = \frac{4 \times (R_{22} + R_{24}) \times G_{35}}{G_{21} + 6 \times G_{23} + G_{25}}$ $B_h = B_{33}$ $G_v = \frac{4 \times (G_{23} + G_{43}) \times B_{33}}{B_{13} + 6 \times B_{33} + B_{53}}$ $R_v = \frac{4 \times (R_{22} + R_{42}) \times G_{33}}{G_{12} + 6 \times G_{32} + G_{52}}$ $B_v = B_{33}$	

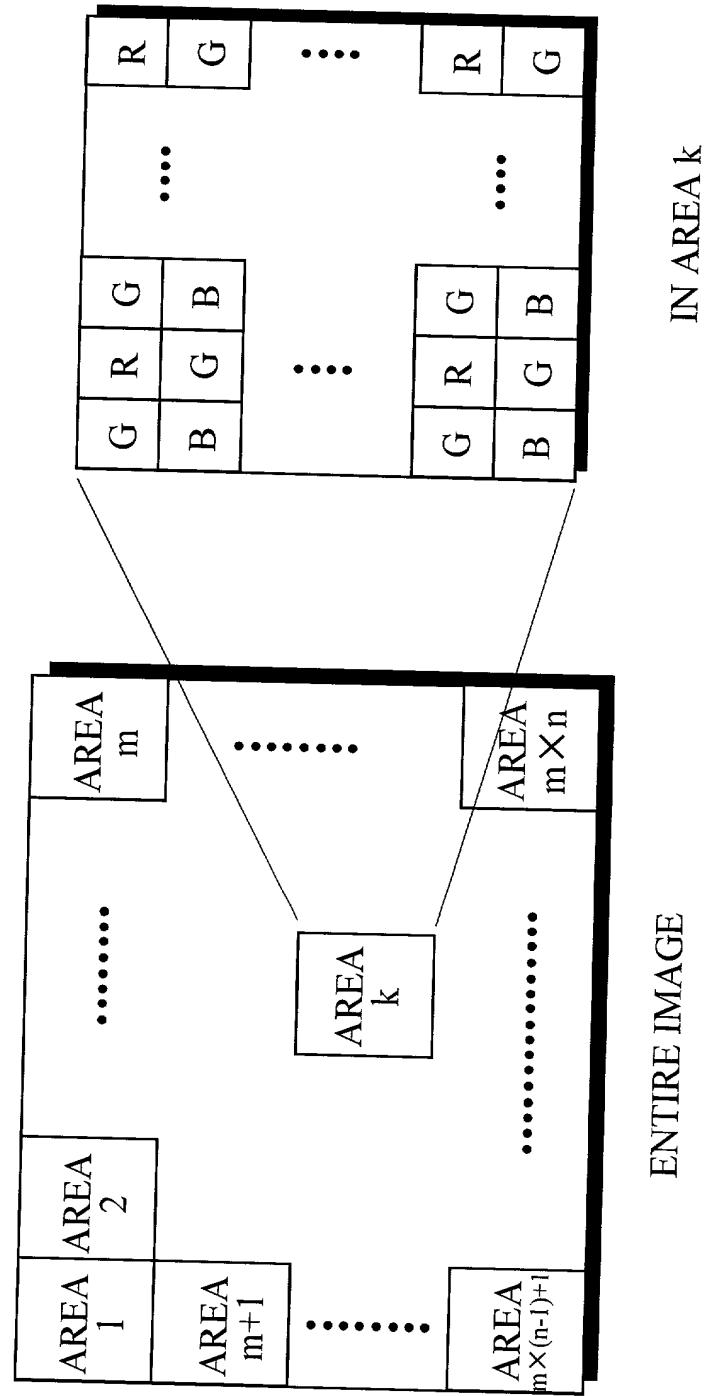
FIG. 27

ODD FIELD	METHOD OF INTERPOLATING G,R,B SIGNAL
ODD PIXEL	$G_h = G_{33}$ $R_h = \frac{R_{21} - 2 \times R_{23} + R_{25}}{8} - \frac{G_{22} + G_{24}}{2} + G_{33}$ $B_h = \frac{B_{32} + B_{34}}{2} - \frac{G_{31} - 2 \times G_{33} + G_{35}}{8}$ $G_v = G_{33}$ $R_v = \frac{R_{23} + R_{43}}{2} - \frac{G_{13} - 2 \times G_{33} + G_{53}}{8}$ $B_v = \frac{B_{12} - 2 \times B_{32} + B_{52}}{8} - \frac{G_{22} + G_{42}}{2} + G_{33}$
EVEN PIXEL	$G_h = \frac{G_{32} + G_{34}}{2} - \frac{B_{31} - 2 \times B_{33} + G_{35}}{8}$ $R_h = \frac{R_{22} + R_{24}}{2} - \frac{G_{21} + 6 \times G_{23} + G_{25}}{8} + \frac{G_{32} + G_{34}}{2} - \frac{B_{31} - 2 \times B_{33} + B_{35}}{8}$ $B_h = B_{33}$ $G_v = \frac{G_{23} + G_{43}}{2} - \frac{B_{13} - 2 \times B_{33} + B_{53}}{8}$ $R_v = \frac{R_{22} + R_{42}}{2} - \frac{G_{12} + 6 \times G_{32} + G_{52}}{8} + \frac{G_{23} + G_{43}}{2} - \frac{B_{13} - 2 \times B_{33} + B_{53}}{8}$ $B_v = B_{33}$

FIG. 28

ODD FIELD	METHOD OF INTERPOLATING G,R,B SIGNAL
ODD PIXEL	$G_h = G_{33}$ $R_h = \frac{G_{33} \times (R_{21} + 6 \times R_{23} + R_{25})}{4 \times (G_{22} + G_{24})}$ $B_h = \frac{B_{32} + B_{34}}{2} - \frac{G_{31} - 2 \times G_{33} + G_{35}}{8}$ $G_v = G_{33}$ $R_v = \frac{R_{23} + R_{43}}{2} - \frac{G_{13} - 2 \times G_{33} + G_{53}}{8}$ $B_v = \frac{G_{33} \times (B_{12} + 6 \times B_{32} + B_{52})}{4 \times (G_{22} + G_{42})}$
EVEN PIXEL	$G_h = \frac{G_{32} + G_{34}}{2} - \frac{B_{31} - 2 \times B_{33} + B_{35}}{8}$ $R_h = \frac{4 \times (R_{22} + R_{24})}{(G_{21} + 6 \times G_{23} + G_{25})} \times \left(\frac{G_{32} + G_{34}}{2} - \frac{B_{31} - 2 \times B_{33} + B_{35}}{8} \right)$ $B_h = B_{33}$ $G_v = \frac{G_{23} + G_{43}}{2} - \frac{B_{13} - 2 \times B_{33} + B_{53}}{8}$ $R_v = \frac{2 \times (R_{22} + R_{42})}{(G_{12} + 6 \times G_{32} + G_{52})} \times \left(G_{23} + G_{43} - \frac{B_{13} - 2 \times B_{33} + B_{53}}{4} \right)$ $B_v = B_{33}$

FIG. 29



CHROMATIC COLOR /
ACHROMATIC COLOR
JUDGED VALUE R_k
(RATIO OF SIGNAL
AT ALL PIXELS COMPOSING
CCD TO CORRELATED VALUE)

FIG. 30

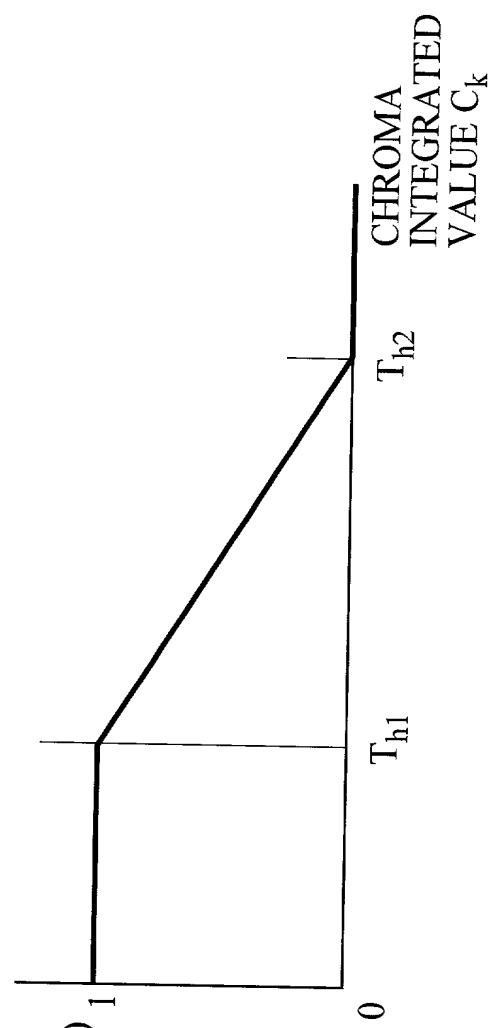


FIG. 31

